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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,353	03/05/2002	Ioannis Katsavounidis	INTV.007A	7737

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EXAMINER	
VO, TUNG T	

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/092,353	KATSAVOUNIDIS ET AL.	
	Examiner	Art Unit	
	Tung T. Vo	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 March 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *09/04/02, 10/15/02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 09/04/02, 10/15/02, 10/22/02 has been considered.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: a receiver circuit, a buffer, a parsing circuit, an error monitoring circuit, an FEC decoder as specified in claim 1; means for receiving, means for retrieving, means for determining, and means for using as specified in claim 5. The claimed limitations in claims 1 and 5 are not described in the specification of the invention and in the drawings. It is noted that all the drawings, figures 1-20, describe a process of decoding video data not a apparatus. Therefore, the claimed invention is rejected as best understand below.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 5-6, 8, 11-12, 13, 15, 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Chien et al. (US 5,621,467).

Re claim 1, Chien discloses a video decoder (fig. 2) adapted to reconstruct corrupted video data comprising:

a receiver circuit (10 of fig. 2) adapted to receive a video bitstream;

a buffer (14 of fig. 2) coupled to the receiver circuit, where the buffer is adapted to store at least a portion of the video bitstream;

a parsing circuit (12 of fig. 2, e.g. FEC (12) examines and corrects the compressed-transmitted video data) adapted to distinguish video data from forward error correction (FEC) codes;

an error monitoring circuit (16 of fig. 2, e.g. a frame check sequence examines the error corrected data for uncovered errors according to frame checking sequence bits, see col. 3, lines 10-36) configured to detect corruption in the video data ; and

an FEC decoder (20 of fig. 2) adapted to receive the video data and the FEC codes (ED), where the FEC decoder is configured to remove the corruption in the video data to which the FEC codes apply (18 of fig. 2, e.g. removing the corruption in the video data, wherein the FEC applies).

Re claims 5, 6, and 13, Chien discloses a video decoder (fig. 2) that decodes a video bitstream that includes forward error correction (FEC) codes, the video decoder comprising:

means (10 of fig. 2) for receiving the video bitstream, which includes both video data and FEC codes;

means (16 of fig. 2, e.g. a frame checking sequence retrieves the video data and the ED from the video bitstream) for retrieving video data from the video bitstream;

means (16 of fig. 1, e.g. the frame check sequence examines the error corrected data) for determining if there is corruption in a portion of the video data retrieved;

means (12 of fig. 2) for retrieving FEC codes from the video bitstream in response to a detection of corruption; and

means (20 of fig. 2) for using the FEC codes to reconstruct the portion of the video data such that the portion of the video data is recovered without corruption (the decompress (20) is decompressing the compressed data from the concealment (18 of fig. 2) based ED).

Re claims 8 and 15, Chien further discloses the step of storing the video bitstream in a buffer (14 of fig. 2); retrieving the video data from the buffer when retrieving video data from the video bitstream (16 of fig. 2); and retrieving the FEC codes (12 of fig. 2) from the buffer when retrieving the FEC codes from the video bitstream (see also col. 3, lines 1-39).

Re claims 11 and 18, Chien further discloses the step of receiving a header code that specifies a subset of video data to which the FEC codes correspond, and applying the FEC codes only to the subset of video data (col. 3, lines 16-39).

Re claim 12, Chien further discloses the step of concealing an error in a corresponding pixel (col. 3, lines 48-61, e.g. the error concealment conceal an error in a corresponding to a

single component (e.g. luminance, chrominance, color, or gray color pixel...) with a gray color pixel when the portion of the video data cannot be recovered without corruption).

5. Claims 5-6 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Canfield et al. (US 6,310,922 B1).

Re claims 5, 6, and 13, Canfield discloses a video decoder (fig. 1) that decodes a video bitstream that includes forward error correction (FEC) codes, the video decoder comprising:

means (10 of fig. 1) for receiving the video bitstream, which includes both video data and FEC codes;

means (11 of fig. 1) for retrieving video data from the video bitstream (the video stream is retrieved for compression based on the control signal (16 of fig. 1));

means (12 of fig. 1) for determining if there is corruption in a portion of the video data retrieved;

means (13 of fig. 1) for retrieving FEC codes from the video bitstream in response to a detection of corruption; and

means (14 of fig. 1) for using the FEC codes to reconstruct the portion of the video data such that the portion of the video data is recovered without corruption.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 2, 4, 7, 10, 14, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chien et al. (US 5,621,467) as applied to claims 1, 6, and 13, and further in view of Kikuchi et al. (US 6.415,389 B1).

Re claims 2, 4, 7, 10, 14, and 17, Chien teaches the FEC codes and MPEG decoding using FEC codes but Chien does not particularly teach the FEC codes correspond to Bose-Chaudhuri-Hocquenghem (BCH) codes and the video data is retrieve from a packet for a video object plane (VOP) and retrieving the FEC codes as claimed.

However, Kikuchi teaches the FEC codes correspond to Bose-Chaudhuri-Hocquenghem (BCH) codes (col. 1, lines 25-30) the video data is retrieve from a packet for a video object plane (VOP) and retrieving the FEC codes from a user data video packet associated with the VOP (802 of fig. 8, e.g. requesting the FEC kind ID signal from the input; see also fig. 38, (a), (b), and (c), e.g. the dynamic image code string of a single VOP starts from a VOP start code (VSC in the drawing) (also referred to as a picture start code), which is a uniformly decodable synchronization code. The VOP start code is followed by a VOP header (VH in the drawing) (also referred to as a picture head). The VOP header contains information representative of time of the VOP, a VOP coding mode, a VOP quantization step size and so forth. The VOP header is followed by coding data of macro blocks).

Therefore, taking the teachings of Chien and Kikuchi as whole, it would have been obvious to one of ordinary skill in the art to incorporate the Bose-Chaudhuri-Hocquenghem (BCH) codes for the VOP of Kikuchi into the FEC decoder of Chien for the same purpose of retrieving the video data and FEC for the VOP from the video data stream.

Doing so would provide the decoder which can decrease the number of bits of a code string, to which a header information representative of the kind of error detection/correction coding must be added and which is transmitted and/or stored, to improve the quality of information.

8. Claims 3, 9, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chien et al. (US 5,621,467) as applied to claims 1, 6, and 13, and further in view of Fuji et al. (US 6,807,191 B2).

Re claims 3, 9, and 16, Chien teaches the buffer for storing the video data above but Chien does not particularly teach the buffer is a ring buffer as claimed.

However, Fuji teaches the buffer is a ring buffer for storing the video data (fig. 6). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the ring buffer (fig. 6) of Fuji into the decoder of Chien to easily read and write the video data the video data for decoding. Doing so would allow the user to read or write a particular amount of the video data from or onto the ring buffer in the desired location or address.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Watanabe et al. (US 6,310,897 B1) discloses an information transmitting method, encoder/decoder of information transmitting system using the method, and encoding multiplexer/decoding inverse multiplexer.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung T. Vo whose telephone number is (703) 308-5874. The examiner can normally be reached on 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris. Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TUNG T. VO
PATENT EXAMINER

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